

Yale University's Institute of Human Relations and the Spanish Civil War: Dollard and Miller's Study of Fear and Courage under Battle Conditions

José María Gondra and Manuel Sánchez de Miguel
Universidad del País Vasco (Spain)

In the late 1930s, the Institute of Human Relations of Yale University developed a research program on conflict and anxiety as an outcome of Clark Hull's informal seminar on the integration of Freud's and Pavlov's theories. The program was launched at the 1937 Annual Meeting of the APA in a session chaired by Clark L. Hull, and the experiments continued through 1941, when the United States entered the Second World War. In an effort to apply the findings from animal experiments to the war situation, John Dollard and Neal E. Miller decided to study soldiers' fear reactions in combat. As a first step, they arranged interviews with a few veterans of the Abraham Lincoln Brigade. Taking these interviews as a point of departure, Dollard devised a questionnaire to which 300 former Lincoln brigaders responded. The present paper analyzes the main outcomes of the questionnaire, together with the war experiences reported in the interview transcripts. Our purpose was to evaluate a project which was initially investigated by the FBI because of the communists among the Lincoln ranks, but eventually supported by the American Army, and which exerted great influence on the military psychology of the time.

Keywords: *Abraham Lincoln Brigade, fear in battle, neobehaviorism, Yale Institute of Human Relations, WarPsychology, Military Psychology.*

A finales de la década de 1930 el Institute of Human Relations de la Universidad de Yale desarrolló un programa de investigación sobre el conflicto y la ansiedad como resultado del seminario informal de Clark H. Hull sobre la integración de las teorías de Freud y Pavlov. El programa se puso en marcha en la reunión anual de la APA de 1937 en una sesión presidida por Hull y los experimentos continuaron en 1941, cuando los Estados Unidos entraron en la segunda guerra mundial. En un intento de aplicar los hallazgos de los experimentos con animales a la situación bélica, John Dollard y Neal E. Miller decidieron estudiar las reacciones de miedo de los soldados en el combate. Como primer paso concertaron entrevistas con unos pocos veteranos de la Brigada Abraham Lincoln. Tomando estas entrevistas como punto de partida, Dollard diseñó un cuestionario al que contestaron 300 antiguos brigadistas de la Lincoln.

Este artículo analiza los resultados principales del cuestionario, así como las experiencias de guerra reflejadas en las transcripciones de las entrevistas. Nuestro propósito ha sido evaluar un proyecto que fue investigado inicialmente por el FBI por la presencia comunista en las filas de la Lincoln, pero finalmente apoyado por el ejército norteamericano, y que ejerció una gran influencia sobre la psicología militar de la época.

Palabras clave: *Brigada Abraham Lincoln, miedo en combate, neoconductismo, Yale Institute of Human Relations, Psicología de Guerra, Psicología Militar.*

This paper was funded by a grant from the Spanish Ministry of Education and Science (Research Project SEJ2006-14090-C02-02/PSIC).

Correspondence concerning this article should be addressed to José María Gondra, Facultad de Psicología, Departamento de Psicología Básica. Universidad del País Vasco; Avda. Tolosa, 70, 20018 Donostia-San Sebastián, Gipuzkoa (Spain). E-mail: josemaria.gondra@ehu.es.

The Spanish Civil War halted the development of Spanish scientific psychology. The International Congress of Psychology, which was to take place in Madrid in September 1936, had to be cancelled after the outbreak of hostilities (Carpintero & Lafuente, 2008; Montoro & Quintanilla, 1982). Three years later, the Republican defeat forced the leaders of the profession to go into exile abroad. The new regime imposed a psychology highly influenced by the conservative views of Neo-Scholastic philosophy (Carpintero, 1984).

However, the effects of the war were not all negative for psychology, since the experiences of the men who fought in Spain contributed to the development of military psychology. This is evidenced by the transcripts of interviews with veterans of the Abraham Lincoln Brigade (ALB) preserved in the Yale and New York University archives. These men played an important role in the research conducted during the Second World War by the Yale Institute of Human Relations on fear among soldiers. Specifically, they provided the empirical basis needed for the development of a questionnaire on fear and courage in modern warfare.

After presenting a brief picture of the Yale Institute of Human Relations, we will analyze the interviews conducted with the ALB veterans and the questionnaire published by John Dollard in 1943; we will then conclude with an assessment of the questionnaire's influence on post-war military psychology.

The Yale Institute of Human Relations

The Institute of Human Relations at Yale University (IHR) was a pioneering entity created in 1929 by psychologist and Yale President James R. Angell (1869-1949) in close collaboration with Milton C. Winternitz (1885-1959), Dean of the Medical School, and Robert M. Hutchins (1899-1977), Dean of the Law School (Viseltair, 1984). The IHR integrated the departments of psychology, psychiatry, law, sociology, anthropology and other related disciplines. Generously funded by the Rockefeller foundation, the IHR was to serve the twofold purpose of conducting research on pressing social problems, such as juvenile delinquency and unemployment, and training skilled personnel for working in these fields.

The founders of the Institute were convinced that the surest road to solving major problems was through interdisciplinary research by experts from different scientific disciplines. Assuming that the heads of the different departments or schools would voluntarily collaborate in the enterprise, the founders left it up to them to manage research funding (May, 1978). This kind of "laissez faire" policy, however, did not translate into practical results so the Rockefeller Foundation decided to curtail support of the Institute, awarding only a terminal grant of \$700,000 to cover the period from 1939-1949 (Morawski, 1986).

In view of these difficulties, the Institute underwent substantial changes in 1935 after the appointment of Mark A. May (1891-1977) as Director. Leaving aside the former applied orientation, Mark May promoted the integration of learning psychology, social structure theory and cultural anthropology to construct a new comprehensive science of human behavior that would serve a heuristic function in applied research (May, 1949, 1971).

Clark L. Hull's Informal Seminars

The neobehaviorist Clark L. Hull (1884-1952) played a leading role in this new policy, due in part to his efforts to unite Pavlov's classical conditioning and Thorndike's instrumental learning in a single theoretical system. His hypothetico-deductive model of theory construction seemed to provide the foundation for a unified science of human behavior and his informal seminars gave participants the opportunity to work together in a joint enterprise.

Looking for a unifying theme that would encourage this collaborative effort, Hull suggested a comprehensive study of motivation, but his proposal encountered some opposition among social psychologists. John Dollard (1900-1980), a social scientist and psychoanalyst, proposed the task of translating cultural and psychoanalytical concepts into experimental questions. Taking into account Dollard's proposal, in late June 1935 Clark Hull decided, in his words, to "start my seminar next fall as a study of the C.R. implications of the Freudian psychology and proceed thence into a gradual consideration of the theoretical analysis of the habituation mechanisms behind the Freudian interpretations of certain complex social phenomena" (Hull, 1935-36, pp. 177-178).

During the months of July and August Hull studied Freud's *Introductory Lectures on Psychoanalysis* (Freud, 1920) and the *Structure and Meaning of Psychoanalysis* (Healy, Bronner & Bowers, 1930). Once familiar with Freudian theory, he convened the seminar for Wednesday evening, January 22nd, 1936.

In his introductory speech, as reported by O. Hobart Mowrer (1907-1982), he pointed out that "if terminological barriers could be removed ... psychoanalysis might be expected to improve the nature of the evidence offered for its claims and experimental psychology might be expected to concern itself with somewhat more vital problems" (Hull & Mowrer, 1936-38, p. 3).

The seminar ended on May 27th, 1936, after a series of meetings devoted to finding the behavioral constructs that were equivalent to psychoanalytic concepts such as libido, oral and genital sexuality, regression, repression, unconscious, etc. However, the terminological barriers and the difficulty in formalizing these Freudian concepts dissuaded Hull from continuing the work of translating Freud's principles into behavior principles. For this reason he left his younger collaborators in charge of designing experiments to test hypotheses deduced from psychoanalytical theory (Sears, 1985).

The first fruit of these endeavors was the monograph *Competition and Cooperation* (May & Doob, 1937), which was followed by *Frustration and Aggression* (Dollard, Doob, Miller, Mowrer & Sears, 1939), a classic on the study of aggression (Lubeck, 1986). A little later *Social Learning and Imitation* came out (Miller & Dollard, 1941), representing the first major link between the theory of learning and the parameters of social and cultural conditions. Its principal co-author, Neal E. Miller (1909-2002), was an experimental psychologist who, advised by Dollard, spent a year studying psychoanalysis and being psychoanalyzed at the Vienna Institute of Psychoanalysis.

These books, as well as *Personality and Psychotherapy* (Dollard & Miller, 1950), were influenced by the research program on conflict launched by Hull at the 1937 APA Annual Meeting (Hovland, 1937; Miller, 1937; Mowrer, 1937; Sears, 1937), which led to the experiments on learned anxiety.

Anxiety as a learned drive

The rationale for these experiments was provided by Mowrer's interpretation of Freud's theory of anxiety (Mowrer, 1939). In his later writings, Freud proposed a new explanation according to which anxiety is produced by the Ego as a signal indicating the presence of danger (Freud, 1926/1959). Mowrer preferred to speak of anxiety as a *response* to danger signs instead of a sign of danger which was learned by a process of conditioning. Assuming that conditioned responses are anticipatory responses, he defined anxiety as the anticipation of painfully intense stimulation such as the electric shock in experiments on animal learning.

Considered a drive, anxiety exerts significant influence on shaping human behavior. Instead of being a disruptive emotion, it can motivate trial-and-error behavior; a reduction in anxiety can also reinforce the learning of new habits.

In order to demonstrate this, Miller (1941) placed a group of albino rats in an avoidance chamber consisting of two compartments separated by a solid door. One compartment was white with a grid floor; the other was black without a grid. The animals received an electric shock from the grid in the white compartment and escaped into the black compartment through the open door. After a number of such trials, they would run out of the white chamber even if the grid was not charged. In the test trials they were able to learn a new response when placed in the white compartment without further electric shocks.

This experimental work led to the conclusion that fear could be learned as a response to previously neutral cues and motivate the learning and performance of new responses in the same way as hunger, thirst or other drives. This view was relatively new, moving away from the classic view of fear as a disruptive emotional reaction suggesting something abnormal as shame or repression, and emphasizing its role

on the learning process. As a learned drive, fear is a powerful instigator of action; it can motivate adaptive behavior such as being more alert, careful, swift and resourceful or maladaptive behavior such as being paralyzed or fleeing.

Applying these ideas to the battle field, the most important thing operationally is not how afraid the soldier is, but what fear motivates him to do; therefore, training should be designed to teach men adaptive responses to fear. A sudden reduction in the strength of fear serves as a reward to reinforce responses in exactly the same way that food reinforces other habits. If a soldier's fears are reduced after successfully attacking the enemy, he can be expected to learn the habit of attacking when frightened; if he is allowed to escape fear by fleeing, he will be expected to have a stronger tendency to run away the next time.

Fears are also subject to experimental extinction when they are not reinforced by pain or danger. Thus, with increased combat experience any unrealistic fears of spectacular but less dangerous weapons can be expected to gradually decrease. Furthermore, if the fear is not too strong, it can be inhibited by other stronger responses. Soldiers who intensely concentrate on attacking may show relatively little fear in situations that would arouse intense fear.

The interviews with the Lincoln veterans

During the fall of 1941, John Dollard and Neal Miller began to work on the problem of fear under battle conditions. Trying to get in touch with experienced soldiers, they first contacted American Legion veterans in New Haven. However, they found that the veterans were not able to provide them with much significant information because the conditions of modern battle were so different from those of World War I. The dive-bomber, the Blitz, and the tank had completely changed the nature of war.

Dollard and Miller then turned to the veterans of the Abraham Lincoln Brigade as the only body of soldiers with experience under modern battle conditions. They were familiar with the actions of the ALB vets in the Spanish Civil War; in 1937 Clark Hull had become the first chairman of the Psychologists' Committee of the Medical Bureau to Aid Spanish Democracy, which channeled humanitarian aid to the Spanish Republican Government (Finison, 1977).

When Dollard and Miller first contacted the Abraham Lincoln Veterans organization, they were met with a mixed reaction. According to Dollard, "cooperation was given by these men, although somewhat reluctantly. There was some vague suspicion of danger to them, some doubt that the findings of the research would ever be used" (Dollard, 1943, April 16). But in spite of these reservations, they agreed to collaborate because they thought their experience might be of some use in the military situation following the Japanese attack on Pearl Harbor in December 1941.

After obtaining approval from the authorities at Yale University, the project was funded with a grant of \$8,400,000 from the Rockefeller Foundation. In April 1942, Dollard received authorization from the War Department and prepared the interviews with the ALB veterans. The first three interviews were conducted at the end of May by David Horton, research assistant in Anthropology; copies of the transcripts are included in the Neal E. Miller Papers at the Yale University Archives. The other interviews were conducted by several people, including Dollard himself, from June 22nd through July 8th, 1942; the transcripts are part of the John Dollard Papers at the Tamiment Library at New York University.

The Lincolns in the Spanish Civil War

An estimated 2,800 American volunteers joined the Lincoln battalion over the course of the war. About 900 were killed. With very little training and obsolete equipment, they formed shock troops which became known for their toughness despite crushing military defeat.

On December 26th, 1936, some ninety-eight volunteers embarked from the harbor of New York to the French port of Le Havre. They traveled by train to the Spanish border and crossed the Pyrenees on foot to meet in Figueres, Catalonia, from where they were taken to the town of Albacete. Later other groups of American volunteers followed the same route to avoid being caught by the French border police. The man in charge of their training was Robert H. Merriman (1908-1938), a Californian economist who was not well versed in military matters (Lawson, 1989).

The first action for the nearly four hundred American volunteers enlisted in the Lincoln battalion took place on February 1937 when they fought in the Jarama Valley to defend the road between Valencia and Madrid. The battle continued with heavy losses until June, raising to three hundred the number of men killed or wounded. The next combat they participated in was the battle of Brunete, where half of the brigade was killed. The survivors were sent to the Aragon front, where they took part in the attack on the town of Belchite. By the end of the first day, all the company commanders and many of the adjutants had been killed.

Withdrawn from the lines, the Lincoln volunteers took a short rest in the month of September. In October they headed toward the town of Fuentes de Ebro, where the toll could not have been worse: nearly eighty dead and one hundred fifty wounded. When the advance on Zaragoza was stalled, they returned to the Madrid area until the last day of 1937, when they were sent to the front at Teruel. Unable to penetrate the city, they could only watch as waves of troops backed by artillery and bombers attacked the Republican lines; on February 19 they were forced to retreat.

The first week of March 1938 saw the beginning of what was called the "Great Retreat." Facing a combination of air attack, artillery, tanks and infantry, the Lincoln brigaders

could hardly withstand the tremendous assault. By March 15th, six days after the beginning of the attack, they had shriveled from one thousand men to about two hundred fifty survivors. Discouraged and demoralized, they took refuge in the heights above the town of Gandesa. Heavy fire forced them to march through the dark in hostile unknown territory. Major Merriman went missing in action; scattered around the countryside, the rest of the brigaders tried to reach the Republican lines on the far side of the Ebro River, although many drowned trying to cross the river.

After the months of April, May and June 1938, the Lincoln volunteers rebuilt their army and resumed training for a new offensive. On July 25th, 1938, they crept silently into small boats and proceeded to cross back over the Ebro River. The surprise operation succeeded, but after five days of fighting, the battalion tallied fifty dead and two hundred fifty wounded or missing. The Americans now numbered fewer than one hundred. They remained in combat under heavy artillery fire until September 21st, when Prime Minister Juan Negrín announced at the League of Nations in Geneva that all the International Volunteers would be removed from Spain.

When the surviving volunteers returned to the United States, the government immediately seized their passports and threatened them with prosecution for violating the Neutrality Act. A little later, the Committee on Un-American Activities began congressional harassment of the veterans belonging to the Communist Party.

This is a brief summary of the ordeal experienced by this group of young idealists who gave their best to defend democracy and freedom in a foreign country (Carroll, 1994).

Memories of the Civil War

The transcripts of the seventeen interviews we analyzed show the horror and cruelty of war and the personal commitment of the Lincoln volunteers. Although they deal primarily with fears in the battlefield, they also contain valuable data about the human side of the war as experienced by its protagonists.

As reported in a previous article (Gondra, 2008), the conversation begins with the first experience of enemy fire and goes on to recall panic situations, fears of different weapons, fear of killing, hatred for the enemy and the ways of controlling fear. It then concludes with questions about military morale, training and leadership.

Interspersed between the responses is information about how the Republican Army managed the war, the treatment received when falling prisoner, their reactions to the Spanish soldiers, etc. There are also questions about sex for the purpose of verifying the hypothesis that sexual feelings are opposite to fear and correlate with courage.

Expressing what seems to be the group's opinion on this question, Volunteer XK said that in Spain it was hard to have sex with a woman, except with prostitutes, "because of the Catholic upbringing of the girls. None of us would

even make passes at them because we knew what it would mean in propaganda against the foreigners who had come to fight for Spain" (Horton, 1942, July 3, p. 18). Most respondents also agreed that sex was no problem at the front because they were terribly hungry and food became the main topic of conversation.

The veterans of the Abraham Lincoln Battalion varied as to age, social status and political conviction. The majority were industrial workers who came from working class families and lived in big cities. There were about 500 college men, either students or teachers.

The typical informant was a rifleman, wounded, non-commissioned, with extensive experience at the front. In addition, there were several machine gunners, two ambulance drivers, a guerilla soldier, an anti-aircraft man and a trainer of troops, together with Milton Wolff (1915-2008), the last commander of the battalion, four political commissars and Evelyn Hutchins (1910-1982), the only woman, who served as a truck driver.

Their responses show some criticism of the lack of training and poor leadership in the Republican Army, especially at the beginning of the war. For instance, Milton Wolff, when referring to his first experience of real fire, says that a "lot of Americans were wounded and killed, and part of the wounds and death were due to inexperienced commanders" (Dollard, 1942, June 16, p. 9). Volunteer XI, a trainer of troops, acknowledges that "we had a lot of problems ... The Spanish Army was never well-organized until the end. There were political questions that had to be solved among different political groups" (Dollard, 1942, June 30, p. 27).

Some volunteers resented the heavy schedules they had to endure. For instance, Informant B, a political commissar, commented that the "Americans in Spain had a terrifically long experience at the front. They were in battle for 105 consecutive days" (Horton, 1942, p. 19). This long stay contrasts sharply with the usual practice of keeping them no more than two or three weeks at the front. They also pointed out that there was a good deal of Franco's fifth column at work. For example, in reference to the difficulties she had on the roads with some guards, Evelyn Hutchins said that there were "towns in Spain that had voted completely Fascist, and they were in Loyalist territory ... In these towns, the guards would be taken from the towns ... and they tried to take my truck away from me ... These were civil guards and they were well-known for not being too reliable" (Horton, 1942, July 9, pp. 27-28).

All of these limitations, however, did not discourage the Lincoln brigaders; on the contrary, the majority of them were proud of their outfit. Volunteer XB, an African-American machine-gunner, made this point when he said:

Although we had respect for their army and their superior strength, man for man, we were stronger than they... We had more determination; we had a better relationship in the army. We realized more what we were fighting for, and as the time

went on, they used to come over to our lines. They would dribble into our lines ... And the first thing they say, is, "do not shoot; we want to come into your lines" (Dollard, 1942, June 17, pp.5-6).

The Lincolns volunteered to fight Fascism, and this gave them a sense of responsibility. "We had an entirely different spirit about the war," said Volunteer XI. "We all had a very definite understanding of what our role was and our discipline was a voluntary discipline" (Dollard, 1942, June 30, p. 9). The reaction of some veterans to the lack of interest by Spanish draftees serving in the Brigade is interesting. Volunteer XK commented that "all the kids we had were farm youths and knew nothing ... about the war. The war never hit them. Their little towns had not been bombed" (Horton, 1942, July 3, p. 12). These recruits did not want to fight, much like the Franco soldiers mentioned above by Volunteer XB.

Identification with the cause, together with pride in their outfit and good leadership, helped the ALB volunteers to overcome fear. The vast majority acknowledged having felt fear and even panic in situations of danger. However, experience had taught them how to control it. For instance, as Volunteer XI puts it, "In the first bombardments we ever went through, it was pretty terrifying, but only two or three out of 500 were hurt. Immediately you spread the word, and they get the feeling that it was not so terrible" (Dollard, 1942, June 30, p. 16).

Two of the seventeen informants were taken prisoner by the Italians. Volunteer XL was captured on April 1st, 1937 and brought to San Pedro de Cardeña where he spent about one year until he was released. Volunteer XD was captured a little later, when he was lost trying to get to the Ebro River, and taken to a concentration camp in Zaragoza. Both admitted being treated fairly well by the Italians even though during questioning they had been forced to stand against a wall before a firing squad. At the concentration camp, Volunteer XD was beaten up, as were other prisoners.

Volunteer XL attributed the good treatment he received to the fact that he was going to be exchanged for the Italian prisoners of the Republic and the Fascists didn't want him to go back with horror stories. During the war, the monastery of San Pedro de Cardeña (Burgos) was a "prison depot" housing three or four hundred prisoners. In the year he lived at that uncomfortable place there were twenty-eight escapes, but only two made it safely. Neither Americans nor English joined the escapees because the officers had told them that they were to be exchanged.

Informant XL recalls that the prisoners were subjected to psychological tests administered by the Gestapo, probably part of the personality study directed by Dr. Vallejo Nájera, Chief Psychiatrist of Franco's Army (Bandrés & Llavona, 1996). They took different facial measurements of the prisoners such as the space between the eyes or the length of the nose. Then they gave them a long questionnaire which

included several questions about their sexual lives. The responses were perfect, as one can imagine: "The way we answered those questions, we were all model men" (M., 1942, July 7, p. 7).

Lastly, the prisoners were briefly interviewed about their reasons for coming to Spain and what they had done on the Republican side. It was simple, routine questioning, no third degree methods, since the Gestapo were not very interested in their job. According to Volunteer XL, "They had a good time in Spain. They were the lords of everything. They drank heavily and didn't do their jobs too well" (M., 1942, July 7, p. 8). They were boastful and didn't believe in their cause.

That was not the case of an Italian officer with whom Volunteer XL had an interesting conversation after being taken prisoner at the front. He was not a Fascist, but he thought it was his duty to serve Mussolini because world Fascism was better than world Communism. When they came to discuss what the war was about, Volunteer XL recalled that "I was amazed how he said exactly the same things that I have been telling the men, except that he was on the other side" (M., 1942, July 7, pp. 32-33).

Strong conviction was the best antidote against demoralization. Many ALB volunteers knew that the Republican Army could not win the war; but they never lost faith in the cause for which they came to Spain. Volunteer XH said that during the "great retreat" he realized that the war was lost. However, he added, "As far as my conviction as to the rightness of the cause we were fighting for, I never lost that" (G., 1942, June 29, p. 10). Their belief that they were fighting for a noble cause was probably the feature that most impressed Dollard at the conclusion of the interviews.

The questionnaire on fear and courage

On the basis of these interviews, Dollard drafted a forty-four-page questionnaire including both free-answer and check-list type questions. Before sending it to the Lincoln veterans, he informed the Federal Bureau of Investigation of the project and submitted a copy asking if they had any objections. No objection was forthcoming; in fact, the local representative thought that the task was a very interesting one. Encouraged by the enthusiastic reception, Dollard considered the possibility of circularizing the ALB veterans within the Army. However, he was dissuaded by the Lincoln officials, who were fearful of negative reactions from some of the American officers, as happened in some cases.

In an undated circular letter to the Lincoln veterans, Dollard and Miller asked for their collaboration in the following terms:

The Institute of Human Relations of Yale University is conducting research on the conditions that affect men's behavior in battle ... Very little has been published about the conditions

of battle as a soldier experiences them ... We feel that scientific information on this subject can be of great importance in the training of the millions of inexperienced men who are now being prepared for the world struggle against Fascism.

The veterans of the Lincoln Brigade are among the few men in this country at the present time who have had active military experience under the conditions of modern mechanized warfare. Your experiences have unfortunately not been appreciated or utilized as they might have been ... We turn to you with the hope that you who have spent from one to two years in Spain will spend another evening to make your experience available (Dollard & Miller, 1942).

Neil E. Miller was no longer able to collaborate in the project because he had been assigned to the Army Air Corp's Psychological Research Unit in Nashville, Tennessee. Dollard, in turn, had some problems in the distribution of questionnaires. As he wrote to the Lincoln officials: "We got back a little less than half of the questionnaires that we mailed out" (Dollard, 1942, November 27). To solve this difficulty, he hired a full-time assistant, John V. Murra (1916-2006), a Lincoln veteran and anthropology student at the University of Chicago.

Thanks to Murra's excellent services, by April 30th, 1943, they had gathered a sample of 300 questionnaires. After quickly processing of the data, they had them published in November in *Fear in Battle* (Dollard, 1943), a booklet which was reprinted a little later by the U.S. Army. Eighteen months of hard work resulted in a survey which contributed to changing the attitude of the military with regard to fear in combat.

Fear in Battle was not a simple presentation of raw data, but an educational tool designed to show officers how to train soldiers to overcome fear, much like *Victory over Fear*, a book published for the general public one year earlier (Dollard, 1942).

Out of the one hundred ninety-nine questionnaire items, the data from sixty-two items were used in the report. The results were presented in concise text, avoiding any technical terms which might be difficult for the layman to understand, and including graphs with the percentages of responses to the different questions provided by the veterans.

In view of the FBI suspicions (Miller, 1982) and an earlier directive from the Secretary of War forbidding any kind of anonymous opinion polls among Army personnel, we can see why in the acknowledgements Dollard would emphasize that his survey had "not been sponsored by the War Department" (Dollard, 1943, p.3). A little later, in the description of the group, he tried to avoid political misunderstandings by saying that "the study bears only on the military experience of the informants and is not a canvass of their political views" (Dollard, 1943, p.7).

The more interesting parts of the book are those having to do with facts about fear, techniques of fear control, and fear and morale.

Facts about Fear

Assuming what had already been observed about learned anxiety, Dollard presented some characteristics of fear which he considered established facts. The main characteristics are the following:

1. *Fear is normal.* It is a danger signal produced in the human body by his awareness of signs of danger in the world around him. Seventy-four per cent of the informants reported they were afraid when going into their first action and many continued to experience fear in subsequent actions. Only nine percent of veterans were never afraid, as shown in figure 1.

Though a strong response, fear need not determine behavior: eighty-five per cent of the informants said that they were scared on at least one occasion. Even moments of panic are not exceptional: sixty-one percent admitted that they "lost their heads" for a moment.

Fear is useful in motivating men to learn habits which will reduce danger in battle. In this regard, the informants were unanimous in thinking that it was important to have a veteran explain to the men the protective value of the things they were learning.

2. *Physical symptoms of fear.* Anxiety is a response to a dangerous situation which in turn produces internal stimuli in different organs of the body. For this reason, wrote Dollard: "Many men think that 'fear is in the mind'. This is an error. Fear begins with strong bodily responses and is then registered in the mind" (Dollard, 1943, p.18).

Crucial to the control of fear is the early detection of the stimuli generated by these bodily responses, as John B. Watson, the founder of behaviorism, had suggested regarding the education of children (Watson, 1927). This is why soldiers should be taught about the common symptoms of fear.

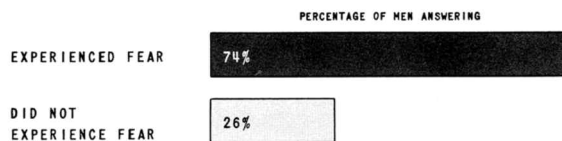
Figure 2 reproduces the signs of fear as reported by the veterans. The most frequent symptom is a pounding heart. Next comes a feeling of muscle tenseness and a sinking feeling in the stomach. A third group includes dryness of mouth, trembling, sweating of hands, nervous perspiration, and loss of appetite. Involuntary defecation or urination, the legendary signs of battle fear in the novice, were comparatively rare.

3. *Fear of wounds and weapons.* According to the veterans' answers, the greatest fear is aroused by the prospect of wounds of the abdomen, eyes, brain and genitals.

ONLY A FEW MEN WERE UNAFRAID . . .

. . . when first going into action

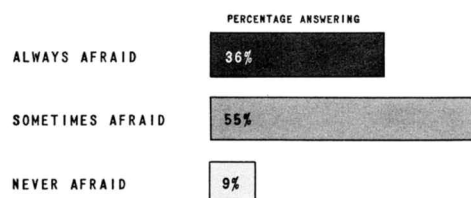
QUESTION. . . "Did you experience fear when going into your first action?"



AND MANY CONTINUED TO EXPERIENCE

FEAR when going into subsequent actions

QUESTION. . . "If you were in more than one action, did you experience fear when going into later actions?"



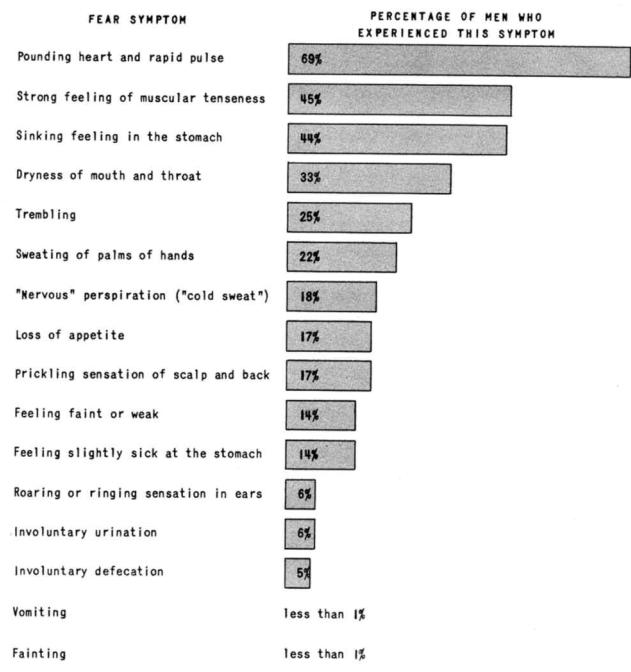
§ The chart is based on the answers of only those men who were in more than one action.

FEAR BEGINS for most men . . .

. . . WITH A POUNDING HEART

BUT FEAR SHOWS ITSELF IN MANY OTHER FORMS

Our veterans were asked to check the symptoms of fear they experienced in battle. This is how they answered. . .



The percentages total more than 100%, since informants usually marked several symptoms.

Figure 1. Percentages of men with fear (Dollard, 1943, p.13).

Figure 2. Physical symptoms of fear (Dollard, 1943, p.19).

Abdominal wounds are justifiably feared because they take many lives at the front. Fear of loss of sight is, according to Dollard, "a dread of that fumbling darkness in which a man is cut off from the signs and signals of security and direction" (Dollard, 1943, p. 20). Fear of losing the brain is also quite understandable because the brain is a symbol of personality. Finally, damage to genitals is one of the most ancient fears because man's sense of manliness depends on the possession of genital power. However, there was a group of men—twenty-two per cent—who did not fear one wound over another.

Feared weapons were divided into three groups. At the head of the list is bomb shrapnel with thirty-six per cent of men answering. Four weapons comprised the next level: trench mortar, artillery shells, bayonet and knife, and expanding bullets. The weapons reported by the lowest percentage were grenades, strafing, machine gun, tank and dive-bomber. The machine gun would be high on the list because it is so dangerous; however, the men were accustomed to it and they knew how to cope with it.

With respect to bombs, the sounds were more terrifying than the sights. A great majority of men reacted strongly to the sounds of dropping bombs or to the noise and concussion of the bombs exploding. Only eight per cent found the sight of dropping bombs more terrifying. They also said that being bombed in a city is more frightening than being bombed at the front. If there is no defense against bombing attacks, eighty-two per cent of the veterans felt that firing at a plane with a rifle had a good effect on their morale.

Techniques of fear control

After having reviewed the soldiers' most frequent fears, Dollard recommended three main control techniques: recognition of symptoms, open discussion before battle, and concentration during battle.

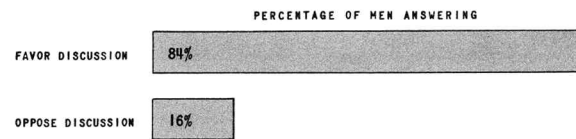
1. *Recognize fear early.* If the first signs of fear are detected, control responses can go into action immediately. Six out of ten veterans believed that a man who expects to be afraid in battle and tries to get ready for it makes a better fighter. Similarly, ninety-eight per cent of the veterans responded that planning in advance to meet the possible dangers of battle is useful. Thus, fear leads men to survey dangerous situations and work out ways of confronting them. They also wanted to be warned of approaching danger so they could be ready for it.

2. *Discuss fear before the battle.* In addition to knowing the symptoms of fear, it is necessary to bring them into the open and talk freely about them. Eighty-four per cent of the informants favored open discussion of fear, as shown in figure 3.

In advising this kind of "talking cure," Dollard was not only following the principles of psychoanalytic therapy, but was also moving away from the practice among the

MOST MEN FAVOR DISCUSSION OF FEAR

QUESTION. . . "What is your opinion on the question of having open discussion among the men on the subject of fear?"



KNOWING HE IS NOT THE ONLY ONE

AFRAID makes a man a BETTER SOLDIER

QUESTION. . . "What was the effect on your behavior of having someone let you know that the other men were scared too — that you weren't the only one?"

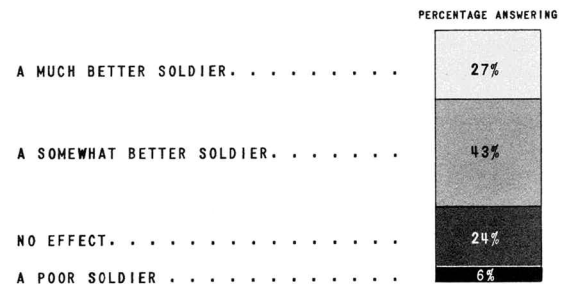


Figure 3. The majority favors discussion before battle (Dollard, 1943, p.39).

military of avoiding such discussions. Open talk reduces fear, helps to avoid feelings of guilt at being afraid and makes the frightened man feel less of a "special case."

Seventy per cent of the men found it useful to be told that others were afraid. This helped them to feel better knit into their group and to not expect to be despised because of being afraid. A lesser number, fifty-eight per cent, found it useful to admit their own fear to another man. Dollard added, however, that such discussion "might come best from a battle-tested man who could stress not only *that* he was afraid but *how* he dealt with his fear and went ahead in spite of it" (Dollard, 1943, p. 38).

Whereas discussing fear before the battle is helpful, it should be suppressed during the battle because expressions of fear tend to excite similar behavior in others. The veterans also stressed that coolness is contagious: ninety-four per cent of them felt that they fought better after observing other men behaving calmly in a dangerous situation.

3. *Concentration on task.* One good way to combat fear is to think about something else. Eighty-four per cent of the informants thought that concentrating on each step of a task when in the presence of danger made them better soldiers. Concentration provides a distraction from fear and makes men more efficient. Similarly, a man who tries to set an example of courage tends to become a better soldier

because he is less likely to be thinking about the danger to himself. Men who said they were less afraid once the action started explained this in the same way. The great exertion required by running toward the enemy lines tends to preoccupy the mind to the exclusion of fear.

Finally, knowing that the enemy was afraid gave confidence to seventy-two percent of the men, whereas "feeling that you are lucky and can't get hit" played a modest role. Only about a fourth of the men found this notion to help combat fear.

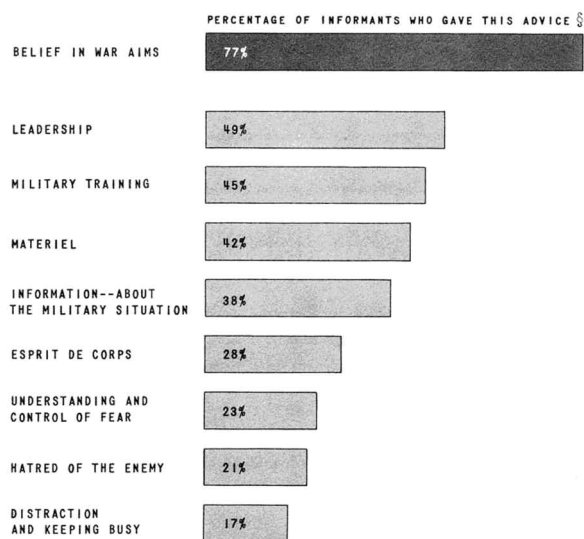
Fear and Morale

Fear-reducing techniques are not always useful or possible. There are situations of extreme danger which call for more effective methods of fear-reducing. Soldiers must mobilize stronger forces to oppose the forces that drive them out of the battle.

Fear is not the only force which demoralizes in situations of defeat, retreats and punitive casualties. Along with fear, the veterans mentioned ignorance or doubt about the true state of affairs, hunger and thirst, prolonged fatigue, hostility toward their own leaders, periods of waiting around with nothing to do, and the technical superiority of the enemy. All these must be countered by opposite forces that drive men into battle.

QUESTION . . . "What would you say are the most important things that help a man overcome fear in battle?"

OUR INFORMANTS MENTIONED. . .



§The total percentage is more than 100%, since many of the informants mentioned several items.

Figure 4. Major forces against fear (Dollard, 1943, p.55).

Seventy-seven per cent of the respondents mentioned devotion to war aims as the most important of these forces. It is not a simple matter of thinking the cause is just; the soldier must know it and feel it. He has to integrate war aims into the depths of his personality.

In figure 4 we reproduce the general view of the forces pushing men into combat. In addition to belief in war aims, the veterans acknowledged the importance of leadership, military training, equipment, and information about the military situation. These forces were stronger than the techniques of fear control and hatred of the enemy, which are in the last place on the hierarchy of forces.

Eighty-three per cent of the informants emphasized that hatred was necessary to the good fighter, but their comments presented an important qualification: "The enemy soldier should be hated as a representative of the Fascist system, not as a mere personal ill-doer" (Dollard, 1943, p.62). In fact, the interviews show a good deal of empathy for the enemy soldier (Gondra, 2008).

A Fear Policy for the Soldier

The survey ended with some recommendations apparently addressed to the army officers. As the management of fear is the main objective of a sound policy, fear should be rationed so that it never becomes too weak or too strong. When it is too weak, a man becomes reckless; when it is too strong, he loses self-control.

Even when fear is very strong, a soldier can learn to manage it and keep it at a useful level. With experience he learns to distinguish between the real and unreal dangers of battle. He can also learn techniques of controlling fear, such as recognition of symptoms of fear, knowing where to expect danger, distraction of attention from danger, and concentration on the task at hand. But these techniques are not sufficient in situations of extreme danger, retreats or defeats. Thus wrote Dollard:

The fundamental thing that controls a man's fear is an internal force which is stronger than his fear. Hatred for the enemy is such a force. Devotion to the Army and its leaders, pride in the outfit, loyalty to friends, and above all, feeling strongly about the war ends are the most-powerful anti-fear forces. A man who has these forces in him can act intelligently and decisively *even when he is very much afraid*. Such a man has courage. Courage is not fearless; it is being able to do the job even when afraid (Dollard, 1943, p. 71).

A soldier with good training and adequate equipment may be a good fighting man without caring about the things he is fighting for; but sooner or later he will face situations of crisis provoked by temporary defeat, hunger, fatigue, sickness and dejection. In such circumstances, continued the survey, "The man who has loyalty to his cause, in addition to equipment and skill, can best stand this test" (Dollard, 1943, p. 71).

Conclusion

The survey accurately describes what veterans reported in the preliminary interviews. However, Dollard asked himself if these findings could be transferred to a similar sample of troops in the United States Army. He was well aware of the differences between the Lincoln veterans and American soldiers fighting in the Second World War. The brigaders were volunteers with a strong sense of "cause"; they were fighting in a technically inferior army and suffered uncountable defeats and many casualties. Clearly, there was no point of comparison between the Spanish Republican Army and the powerful U.S. Army. Nevertheless, there were arguments favoring the possibility of such a transfer:

1. Fear in the face of danger is a common human condition and there is no reason to think that one group of men should be less affected by it than another.

2. The testimony of the Lincoln veterans seemed to be very reasonable. They admitted to fear and gave practical suggestions for combating it which were consistent with both modern psychology and common sense.

3. The fundamentals of modern war are presumably alike everywhere despite differences in cause, army composition or other circumstances.

4. The Lincoln sample was composed of very experienced men from a military stand-point. Seventy-four per cent of them had more than six months' frontline experience and fifty-eight per cent had been wounded at least once. Such experience would have taught them the lessons of battle.

These arguments, solid as they were, did not seem convincing to the reviewer of Dollard's book in the *Infantry Journal*. In the February 1944 issue he said that upon finishing his reading of Dollard's survey, the findings needed to be checked against a similar study among the American soldiers fighting in World War II. However, he changed his mind after reading Enrique Mira's *Psychology in War* (Mira, 1943), a book to some extent complementary to Dollard's. He became convinced that such a verification was not essential to the acceptance of its findings because, as he wrote, "Professor Mira brings out specific combat conditions in Spain which clearly indicate that the causes of fear in the earlier war were just as intense as they have been in World War II" (G.V., 1955, p. 52). After a long and laudatory review of both books, he ended by saying that Dollard had fulfilled his goal of providing useful information for the U.S. Army.

The military establishment also showed a clear recognition of the value of the book. General Frederick H. Osborn (1889-1981), the Army's Chief of Morale Services directly commissioned from civilian life by President Franklin D. Roosevelt, urged orientation officers to use its findings for training soldiers. In a memorandum addressed to these officers he wrote that Dollard's study "is a major contribution to the field of military knowledge, and the

fact that it deals with a sample of men who fought in another war in no way detracts from its practical value because the subjects of this study were real battle-wise soldiers" (Osborn, 1944). Since fear of combat is normal and should not be minimized, he ordered them to teach his men to control fear by following Dollard's recommendations.

From a historical point of view, *Fear in Battle* introduced a new perspective which paved the way to modern military psychology. Compared to other studies of the time (Bendersky, 2007; Glover, 1940; Vernon, 1941), it represented a much more empirical approach to the study of fear.

The techniques for controlling fear seem rudimentary today after the advent of the schools of psychotherapy. But at that time they were a novelty. Dollard and Miller's synthesis of Psychoanalysis, Social Psychology and Neobehaviorism was creative in the sense that it opened the door to discussion among the military of a condition as deeply-rooted in human nature as fear.

The questionnaire was objectionable from the standpoint of scientific rigor owing to the biased sample and the haste with which the questionnaire was conducted in the midst of war. Nonetheless, it received excellent reviews and was included in *The American Soldier* (Stouffer et al., 1949), the book containing all the surveys of attitudes conducted during World War II by the Research Branch of the U.S. Army's Information and Education Division.

References

Archival Material

- Dollard, J. (1942, June 16). Interview with Volunteer XA. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 6. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Dollard, J. (1942, June 17). Interview with Volunteer XB. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 7. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Dollard, J. (1942, June 30). Interview with Volunteer XI. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 13. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Dollard, J. (1942, November 27). Letter to Jack Bjoze. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 1. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Dollard, J. (1943, April 16). Letter to S. A. Stouffer, Director of the Research Branch of the Special Service Division, U.S. Army. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 1. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Dollard, J. & Miller, N.E. (1942). Undated Letter to the Veterans

- of the Abraham Lincoln Brigade. Neal E. Miller Papers, Box 35. Manuscripts and Archives, Yale University Library.
- G. (1942, June 29). Interview with Volunteer XH. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 12. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Horton, D. (1942). Interviews Re Fear. Neal E. Miller Papers, Box 35. Manuscripts and Archives, Yale University Library.
- Horton, D. (1942, June 22). Interview with Volunteer XD. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 9. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Horton, D. (1942, June 26). Interview with Volunteer XG. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 11. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Horton, D. (1942, July 3). Interview with Volunteer XK. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 15. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Horton, D. (1942, July 9). Interview with Volunteer XN. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 18. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Hull, C.L. (1935-36). *Idea book 16. Original ideas on things in general*. The Clark L. Hull Papers, Manuscripts and Archives, Yale University Library.
- Hull, C.L. & Mowrer, O.H. (1936-38). Hull's Psychological seminars 1936-1938. Notices and abstracts of proceedings. Library of the School of Medicine, Yale University.
- M. (1942, July 7). Interview with Volunteer XL. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 16. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Osborn, F.H. (1944). Undated memorandum to the orientation officers. John Dollard research files for "fear and courage under battle conditions." Box 1, Folder 1. Abraham Lincoln Brigade Archive, Tamiment Library, New York University.
- Secondary Material*
- Bandrés, J. & Llavona, R. (1996). La psicología en los campos de concentración de Franco. *Psicothema*, 8(1), 1-11.
- Bendersky, S.G. (2007). "Panic": The impact of Le Bon's crowd psychology on U.S. military thought. *Journal of the History of the Behavioral Sciences*, 43(3), 257-283.
- Carpintero, H. (1984). The impact of Spanish Civil War on Spanish scientific psychology. *Revista de Historia de la Psicología*, 5, 91-97.
- Carpintero, H. & Lafuente, E. (2008). The congress that never was: The Madrid International Congress (1936). *History of Psychology*, 11, 220-238.
- Carroll, P.N. (1994). *The Odyssey of the Abraham Lincoln Brigade: Americans in the Spanish Civil War*. Stanford, Cal.: Stanford University Press.
- Dollard, J. (1942). *Victory over fear*. New York: Reynal and Hitchcock.
- Dollard, J. (1943). *Fear in battle*. New Haven, CT: Institute of Human Relations, Yale University.
- Dollard, J., Doob, L., Miller, N.E., Mowrer, O.H. & Sears, R. (1939). *Frustration and aggression*. New Haven, CT: Yale University Press.
- Dollard, J. & Miller, N.E. (1950). *Personality and psychotherapy*. New York: McGraw-Hill.
- Finison, L.J. (1977). Psychologists and Spain: a historical note. *American Psychologist*, 32, 1080-1084.
- Freud, S. (1926/1959). Inhibitions, symptoms and anxiety. In James Strachey (Ed.). *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 20, 87-172). London: Hogarth Press.
- G. V. (1944). The Mind in combat, a review of Dr. Mira's *Psychology in War* and Dr. Dollard's *Fear in Battle*. *Infantry Journal*, February 1944, 52-55.
- Glover, E. (1940). *The psychology of fear and courage*. London: Penguin.
- Gondra, J.M. (2008). El Instituto de Relaciones Humanas de la Universidad de Yale y la Brigada Abraham Lincoln: Las entrevistas sobre el miedo a los voluntarios de la Guerra de España. *Revista de Historia de la Psicología*, 29(3-4), 93-100.
- Healy, W., Bronner, A. & Browers, A. (1930). *The structure and meaning of Psychoanalysis*. New York: A Knopf.
- Hovland, C.I. (1937). Differences in resolution of approach-approach and avoidance-avoidance conflicts. *Psychological Bulletin*, 34, 719.
- Lawson, F. (1989). *The Abraham Lincoln Brigade*. New York: Thomas I. Crowell.
- Lubeck, I. (1986). Fifty years of frustration and aggression: some historical notes on a long-lived hypothesis. In K.S. Larsen (Ed.). *Dialectics and ideology in psychology*, (30-84). Norwood, NJ.: Ablex Pub.Co.
- May, M.A. (1949). *Towards a science of human behavior – A survey of the work of the Institute of Human Relations through 2 decades, 1929-1949*. New Haven, CT: Yale University Press.
- May, M.A. (1971). A retrospective view of the Institute of Human Relations at Yale. *Cross-Cultural Research*, 6, 141-172.
- May, M.A. & Doob, L. (1937). *Competition and cooperation*. New York: Social Science Research Council.
- May, W.M. (1978). A psychologist of many hats: A tribute to Mark Arthur May. *American Psychologist*, 33, 653-663.
- Miller, N.E. (1937). Analysis of the form of conflict reactions. *Psychological Bulletin*, 34, 720.
- Miller, N.E. (1941). An experimental investigation of acquired drives. *Psychological Bulletin*, 38, 534-535.
- Miller, N.E. (1944). Experimental studies of conflict. In J. McV. Hunt (Ed.). *Personality and behavior disorders* (Vol. 1, 431-465). New York: Ronald Press.
- Miller, N.E. (1948). Studies of fear as an acquirable drive: I. Fear as motivation and fear-reduction as reinforcement in the learning of new responses. *Journal of Experimental Psychology* 38, 89-101.

- Miller, N.E. (1982). John Dollard (1900-1980). *American Psychologist*, 37(5), 587-588.
- Miller, N.E. & Dollard, J. (1941). *Social learning and imitation*. New Haven, CT: Yale University Press.
- Mira y López, E. (1943). *Psychiatry in war*. New York: Norton.
- Montoro, L. & Quintanilla, I. (1982). El Congreso Internacional de Psicología de Madrid. *Revista de Historia de la Psicología*, 3, 223-230.
- Morawski, J.G. (1986). Organizing knowledge and human behavior at Yale's Institute of Human Relations. *Isis*, 77, 219-242.
- Mowrer, O.H. (1937). Reaction to conflict as a function of past experience. *Psychological Bulletin*, 34, 720.
- Mowrer, O.H. (1939). A stimulus-response analysis of anxiety and its role as a reinforcing agent. *Psychological Review*, 46, 553-566.
- Mowrer, O.H. (1940). Anxiety-reduction and learning. *Journal of experimental Psychology*, 27, 497-516.
- Sears, R.R. (1937). Resolution of conflicts between approach and avoidance responses. *Psychological Bulletin*, 34, 719-720.
- Sears, R.R. (1985). Psychoanalysis and behavior theory: 1907-1965. In S. Koch & D.E. Leary (Eds.). *A century of psychology as a science*. (208-220). New York: McGraw-Hill.
- Stouffer, S.A., Lumsdaine, A.A., Lumsdaine, M.H., William, R.M., Smith M.B., James I.L., Star, S.A. & Cottrel, L.S. (1949). *The American Soldier, 2: Combat and its aftermath*. Princeton, New Jersey: Princeton University Press.
- Vernon, P.E. (1941). Psychological effects of air-raids. *Journal of Abnormal and Social Psychology*, 36, 457-476.
- Visellear, A.J.(1984). Milton C. Winternitz and the Yale Institute of Human Relations: A brief chapter in the history of social medicine. *The Yale Journal of Biology and Medicine*, 57, 869-889.
- Watson, J.B. (1927). The myth of the unconscious: A behavioristic explanation. *Harper's Monthly Magazine*, 155, 502-508.

Received March 27, 2009

Revision received August 30, 2009

Accepted September 2, 2009